



The University of Southern Queensland

Course Specification

Description: Research Practice and Ethics A

Subject	Cat-Nbr	Class	Term	Mode	Units	Campus
SCI	4405	10355	1, 2002	ONC	1.00	TWMB A

Academic Group:	FOSCI
Academic Org:	FOS002
HECS Band:	2
ASCED Code:	019999

STAFFING

Examiner: Michael Kotiw

Moderator: Grant Daggard

RATIONALE

In the contemporary world, science and technology are increasingly seen as fundamental for human progress and survival. As the power of technology has increased, ethical considerations in the practice of science have become a critical component in the interaction between science and society. Additionally, the limited ability of society to support scientific research has led to ever increasing competition for these resources and emphasised the need for skills in both scientific communication and information technology. This course is designed to allow students to appreciate the role of philosophy and ethics in the practice of science and to be aware of, and develop, a range of communication skills required to successfully pursue a career in scientific research.

SYNOPSIS

This course is designed to allow students to appreciate the role of communication skills required in the successful pursuit of a career in scientific research and to appreciate the role of philosophy in science. The modular structure of the course is designed to allow the student to develop skills in particular aspects of scientific communication. Topics include: Computer based information retrieval, experimental design and analysis, verbal and written scientific communication skills (debates, seminars, posters and papers) and, the interaction between science and society with an emphasis on the philosophy of science.

OBJECTIVES

On successful completion of this course students will be able to:

- demonstrate skills in verbal presentation of scientific data
- demonstrate skills in the written presentation of scientific data
- demonstrate skills in the preparation and presentation of research grant applications

- use computerised data base searching facilities
- demonstrate an understanding of the varieties of scientific method and their historical evolution

TOPICS

Description	Weighting (%)
1. The course will consist of six modules of which four will be assessed. Modules to be undertaken, from the following list, will be designated by the course examiner at the commencement of the semester.	0.00
2. Database searching and referencing	0.00
3. Powerpoint presentations	0.00
4. Experimental Design and Analysis	0.00
5. Scientific Writing	0.00
6. Conference Presentation	0.00
7. Philosophy of Science	0.00
8. Criticism in Science	0.00
9. Ethical Issues in Science (I): Animal Ethics and Medical Research	0.00
10. Ethical Issues in Science (II): Legal Issues	0.00
11. Funding Science - Each module will normally consist of two 2 hour sessions Led by a module coordinator.	0.00

REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

Booth, V. 1995 *Communicating in Science, Writing a Scientific Paper and Speaking at Scientific Meetings*, 2nd edn, Cambridge University Press, NY, ISBN 0 521 42915 3.

Briscoe, M.H. 1996 *Preparing Scientific Illustrations - A Guide to Better Posters*, 2nd edn, Springer-Verlag, NY, ISBN 0-387-94581-4,

Daly, J. 1996 *Ethical Intersections, Health Research methods and Researcher Responsibility*, Allen & Unwin Publishers, Sydney, ISBN: 1 86448 050 5.

Day, R.A. 1995 *How to Write and Publish a Scientific Paper*, Cambridge University Press, ISBN 0 521 36760 3.

Englehardt, H.T. 1996 *The Foundations of Bioethics*, Oxford Press, NY, ISBN 0 195 05736 8.

Eunson, B. 1995 *Writing Technical Documents*, John Wiley and Sons, Milton, Qld., ISBN 0 471 33566 5.

Kimmel, A.J. 1996 *Ethical Issues in Behavioral Research*, Blackwell Publishers, Cambridge, Mass., ISBN 1 55786 395 4.

Lobban, C.S. and Schefter, M. 1992 *Successful Lab Reports*, Cambridge University Press, NY, ISBN 0 521 40741 9.

Oldroyd, D. 1982 *Science and Ethics*, University of NSW Press, Kensington.

Oldroyd, D. 1986 *The Arch of Knowledge*, University of NSW Press, Kensington.

Riggs, P.J. 1992 *Whys and Ways of Science: Introducing Philosophical and Sociological Theories of Science*, Melbourne University Press, Carlton, ISBN 0 522 84471 5.

Sides, C.H. 1992 *How to Write and Present Technical Information*, Cambridge University Press, Oakleigh, Vic., ISBN 0 521 43861 6.

Snow, C.P. 1964 *The Two Cultures; and A Second Look: an expanded version of 'The two cultures and the scientific revolution'*, Cambridge University Press, Cambridge.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Private Study	140
Tutorial	20

ASSESSMENT DETAILS

Description	Marks Out of	Wtg(%)	Required	Due Date
MODULE 1: POWERPOINT INTRO	1.00	0.00	Y	18 Mar 2002 (see note 1)
MODULE 2: LIBRARY ORIENTATION	1.00	0.00	Y	27 Mar 2002 (see note 2)
MODULE 3: DATA ANALYSIS/EXP	25.00	25.00	Y	01 May 2002 (see note 3)
MODULE 4: SCIENTIFIC WRITING	25.00	25.00	Y	15 May 2002 (see note 4)
MODULE 5: CONFERENCE PRESENTAT	25.00	25.00	Y	29 May 2002 (see note 5)
MODULE 6: PHILOSOPHY OF SCIENC	25.00	25.00	Y	12 Jun 2002 (see note 6)

NOTES:

1. Further details about the due dates are detailed in the assessment section of the Course Specifications.
2. Further details about the due dates are detailed in the assessment section of the Course Specifications.
3. Further details about the due dates are detailed in the assessment section of the Course Specifications.

4. Further details about the due dates are detailed in the assessment section of the Course Specifications.
5. Further details about the due dates are detailed in the assessment section of the Course Specifications.
6. Further details about the due dates are detailed in the assessment section of the Course Specifications.

OTHER REQUIREMENTS

- 1 Students will be expected to achieve over 50% (each of the 4 assessed modules being 25%) to gain a pass in the course.
 - 2 In accordance with University's Policy on Assignments (Regulation 5.6.1), the Examiner of a course may grant an extension of the due date of an assignment in extenuating circumstances. This policy may be found in the USQ Handbook, the Distance Education Study Guide and the Faculty of Sciences' Orientation Handbook for new on-campus students. All students are advised to study and follow the guidelines associated with this policy.
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